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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,637	08/23/2006	Caiteng Zhang	4-1552	2258

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412 MAIN STREET, 7TH FLOOR  
HOUSTON, TX 77002

EXAMINER
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HEINCER, LIAM J

ART UNIT	PAPER NUMBER
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1796

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03/31/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/590,637	<b>Applicant(s)</b> ZHANG, CAITENG	
	<b>Examiner</b> Liam J. Heincer	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 and 41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 and 41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/2/09</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

Claim 1 is objected to because of the following informalities: claim 1 contains a typo such that it reads “at least one metal-polymer chelates” rather “at least one metal-polymer chelate”. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-30 and 41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Considering Claim 1: The new range limitations do not have support in the original specification. Additionally, the ranges have been amended to report to five decimal places. The ranges disclosed in the original specification are never given with an accuracy greater than to two decimal places.

Considering Claim 2: The original specification does not provide support for amino acids as being the amino group bearing molecule. While the original specification does disclose amino acids (28:15-17), they are only disclosed in terms of polyamino acids. As the original claim 1 shows, molecules are considered to be separate group from molecules. Therefore, the disclosure of polyamino acids does not provide support for amino acid molecules,

Considering Claim 3: The original specification does not appear to have support for using monosaccharide derivates. The original specification does have support for monosaccharides (original claim 7), but is silent towards derivatives thereof.

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Considering Claim 5: Sodium and potassium have been added to the Markush group of claim 5. There is no support in the original specification for the metal being either of these metals.

Considering Claim 10: Claim 10 has broadened the nature of the polymer bridging agent from polyvinylpyrrolidone. The original specification only provides support for the polymer bridging agent as being a monosaccharide or polyvinylpyrrolidone (pg. 8). This is not sufficient to support the broader limitations claimed.

Considering Claim 14: Claim 14 has been amended to require a plastic polymer comprising a carboxyl group and a plastic polymer comprising an amino group. While the original specification provides support for adding specific plastic polymers to the solution (9:13-23), there is no support for either of the claimed genres. Additionally, the original specification lacks support for using both a plastic polymer comprising a carboxyl group and a plastic polymer comprising an amino group at the same time.

Considering Claims 22 and 25: Claims 22 and 25 include the limitation "excluding chitosans". There is no support in the original specification for an explicit prohibition on chitosan.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-30 and 41 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Considering Claim 1: Claim 1 has limitations directed towards the percentage of each component. However it is not specified on what basis the percentages are being calculated. As concentrations can be calculated on many different basis, for example by weight, volume or molar amount, the claim is indefinite. For the purpose of further examination, the percentages are being calculated on a weight basis.

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Claim 1 recites the language "hydroxyl bearing polymers, including at least one carbohydrate molecule". It is not clear how the polymer can include a molecule, as they are considered to be different classes in the art. For the purpose of further examination, the claim is being interpreted as requiring a hydroxyl bearing compound.

Considering Claim 2: Claim 3 recites the limitation "soluble hydroxyl polymer". It is not clear what medium the molecules are soluble in. Therefore the claim is considered to be vague and indefinite.

Considering Claim 3: Claim 3 recites the limitation "soluble carbohydrate low molecular weight molecules". It is not clear what medium the molecules are soluble in. Therefore the claim is considered to be vague and indefinite.

Additionally, carbohydrate molecules are a required component of claim 1 as amended. Therefore, the language "further comprising" raises doubt about whether low molecular carbohydrate molecules fall within the scope of carbohydrate molecules in the parent claim, rendering the scope indefinite.

Considering Claim 4: Claim 4 recites the limitation "soluble carbohydrate molecules". It is not clear what medium the molecules are soluble in. Therefore the claim is considered to be vague and indefinite.

Considering Claim 7: Claim 7 has been amended to recite "the hydroxyl group bearing polymers are" selected from the claimed group. However, the group contains several species that are not polymers such as sucrose, maltose and monosaccharides.

Therefore it is unclear what is meant by the term hydroxyl group bearing polymer, as the term polymer would appear to encompass both polymers and molecules in contrast to the definition provided in the original claim 7, where polymers and molecules are indicated to be distinct.

Considering Claim 8: Claim 8 requires the metal polymer chelate produced after liquid solid separation to be from the claimed group. However, the claimed group does not include any metal components. Therefore it is unclear how they would be metal-polymer chelates rather than merely polymers.

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Considering Claim 15 and 17: Claims 15 and 17 are both worded in such a way that the Office is unable to determine what the applicant is attempting to claim. As such examination is precluded at this time.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-9, 11, 13, 16, 18-30, and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamashita (US Pat. 5,582,627).

Considering Claims 1 and 11: Yamashita teaches an aqueous solution comprising 0.2 to 12.5 percent of a water soluble carbohydrate (Claim 7); 0.03 to 2.7 weight percent of ammonia (Claims 7 and 13); 0.001 to 5% folic acid/a carboxylic acid (Table 1 and claim 9); ~1.2 to ~30 percent of metal salts (Table 3) and 15-73.3% water (Table 3).

Yamashita teaches proteins as being an optional ingredient (6:1-11). Therefore there are embodiments without proteins/less than 50% proteins.

Considering Claim 2: Yamashita teaches the composition as comprising lignosulfate/a water soluble hydroxyl containing polymer (Claim 7) and amino acids in a mixture with the ammonia (Claim 7).

Considering Claim 3: Yamashita teaches the composition as comprising monosaccharides (Claim 7).

Considering Claim 5: Yamashita teaches the metal salt as containing zinc (Table 3).

Considering Claim 6: Yamashita teaches adding citric acid (Table 1).

Considering Claim 7: Yamashita teaches the carbohydrate as being maltose, lactose, or monosaccharides or disaccharides (Claim 7).

Considering Claim 8: Yamashita teaches the chelating agent as being lignosulfonate/a polymer bridging agent (Claim 7).

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Considering Claim 9: Yamashita teaches adding xantham gum/a moisture absorbent (Table 1).

Considering Claim 13: Yamashita teaches adding the composition to clay (9:66-10:3). At this point the composition will comprise clay.

Considering Claims 16 and 18-30: Claims 16 and 18-30 are directed towards intended uses for the composition. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Considering Claim 41: "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). See MPEP 2112.01. As Yamashita teaches the claimed composition, it must inherently teach the claimed properties.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-30 and 41 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liam J. Heincer whose telephone number is 571-270-3297. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LJH

March 26, 2009

/Harold Y Pyon/

Supervisory Patent Examiner, Art  
Unit 1796